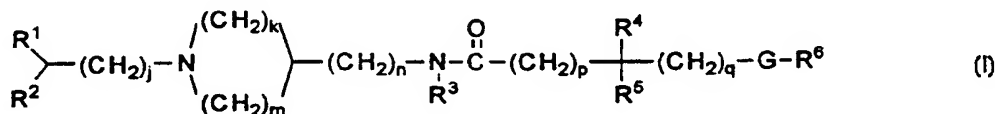




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(54) Title: CYCLIC AMINE DERIVATIVES AND THEIR USE AS DRUGS



## (57) Abstract

A compound represented by general formula (I), a pharmaceutically acceptable acid addition salt thereof or a pharmaceutically acceptable C<sub>1</sub>-C<sub>6</sub> alkyl addition salt thereof, and their medical applications. Since these compounds inhibit the action of chemokines such as MIP-1 $\alpha$  and/or MCP-1 on target cells, they may be useful as a therapeutic drug and/or preventative drug in diseases, such as atherosclerosis, rheumatoid arthritis, and the like where blood monocytes and lymphocytes infiltrate into tissues.

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ring, and the phenyl group, C<sub>3</sub>-C<sub>8</sub> cycloalkyl group, C<sub>3</sub>-C<sub>8</sub> cycloalkenyl group, benzyl group, aromatic heterocyclic group, or condensed ring may be substituted with one or more of a halogen atom, a hydroxy group, a mercapto group, a cyano group, a nitro group, a thiocyanato group, a carboxy group, a carbamoyl group, a trifluoromethyl group, a C<sub>1</sub>-C<sub>6</sub> alkyl group, a C<sub>3</sub>-C<sub>6</sub> cycloalkyl group, a C<sub>2</sub>-C<sub>6</sub> alkenyl group, a C<sub>1</sub>-C<sub>6</sub> alkoxy group, a C<sub>3</sub>-C<sub>8</sub> cycloalkyloxy group, a C<sub>1</sub>-C<sub>6</sub> alkylthio group, a C<sub>1</sub>-C<sub>3</sub> alkylenedioxy group, a phenyl group, a phenoxy group, a phenylamino group, a benzyl group, a benzoyl group, a phenylsulfinyl group, a phenylsulfonyl group, a 3-phenylureido group, a C<sub>2</sub>-C<sub>7</sub> alkanoyl group, a C<sub>2</sub>-C<sub>7</sub> alkoxycarbonyl group, a C<sub>2</sub>-C<sub>7</sub> alkanoyloxy group, a C<sub>2</sub>-C<sub>7</sub> alkanoylamino group, a C<sub>2</sub>-C<sub>7</sub> N-alkylcarbamoyl group, a C<sub>1</sub>-C<sub>6</sub> alkylsulfonyl group, a phenylcarbamoyl group, a N,N-di (C<sub>1</sub>-C<sub>6</sub> alkyl) sulfamoyl group, an amino group, a mono (C<sub>1</sub>-C<sub>6</sub> alkyl) amino group, a di (C<sub>1</sub>-C<sub>6</sub> alkyl) amino group, a benzylamino group, a C<sub>2</sub>-C<sub>7</sub> (alkoxycarbonyl) amino group, a C<sub>1</sub>-C<sub>6</sub> (alkylsulfonyl) amino group, or a bis (C<sub>1</sub>-C<sub>6</sub> alkylsulfonyl) amino group, wherein the substituent for the phenyl group, C<sub>3</sub>-C<sub>8</sub> cycloalkyl group, C<sub>3</sub>-C<sub>8</sub> cycloalkenyl group, benzyl group, aromatic heterocyclic group, or condensed ring is optionally substituted with one or more of a halogen atom, a cyano group, a hydroxy group, an amino group, a trifluoromethyl group, a C<sub>1</sub>-C<sub>6</sub> alkyl group, a C<sub>1</sub>-C<sub>6</sub> alkoxy group, a C<sub>1</sub>-C<sub>6</sub> alkylthio group, a mono (C<sub>1</sub>-C<sub>6</sub> alkyl) amino group, or a di (C<sub>1</sub>-C<sub>6</sub> alkyl) amino group, with the proviso that when k = 2, m = 2, n = 0, and the phenyl group in R<sup>1</sup> is not substituted, C<sub>1</sub>-C<sub>6</sub> alkyl group as a substituent for the phenyl group, C<sub>3</sub>-C<sub>8</sub> cycloalkyl group, C<sub>3</sub>-C<sub>8</sub> cycloalkenyl group, benzyl group, aromatic heterocyclic group, or condensed ring in R<sup>6</sup> is not substituted with an amino group and R<sup>6</sup> is not a benzyl group.

2. A compound, its pharmaceutically acceptable acid addition salt or its pharmaceutically acceptable C<sub>1</sub>-C<sub>6</sub> alkyl addition salt as set forth in claim 1, wherein k = 1 and m = 2 in the above formula (I).

3. A compound, its pharmaceutically acceptable acid addition salt or its pharmaceutically acceptable C<sub>1</sub>-C<sub>6</sub> alkyl addition salt as set forth in claim 2, wherein n = 0 in the above formula (I).

4. A compound, its pharmaceutically acceptable acid addition salt or its pharmaceutically acceptable  $C_1$ - $C_6$  alkyl addition salt as set forth in claim 1, wherein  $k = 0$ ,  $m = 3$  and  $n = 1$  in the above formula (I).

5. A compound, its pharmaceutically acceptable acid addition salt or its pharmaceutically acceptable  $C_1$ - $C_6$  alkyl addition salt as set forth in claim 1, wherein  $k = 1$  and  $m = 3$  in the above formula (I).